



Initial Consultation Meeting

Working together to bring broadband to Public Safety Entities



June 18, 2015
Madison, Wisconsin

Welcome & Introductions



Initial Consultation Goals



**Strengthen
Our
Relationship**



**Provide
FirstNet
Updates**



**Learn about
Unique
Needs of
Wisconsin**



**Discuss
Next Steps**

Meeting Goals

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Agenda – Initial Consultation



Time	Agenda Item	
8:30 am	Welcoming Remarks	Wisconsin FirstNet
	FirstNet Update & Consultation Process	FirstNet
	State Update	Wisconsin
12:00 pm	Lunch	
1:00 pm	Data Collection Elements Discussion: Coverage, Users/Operations, Capacity, Current Service	FirstNet
	Wisconsin Data Collection Activities	Wisconsin
	Wrap-up and Next Steps	Wisconsin & FirstNet
4:30 pm	Adjourn	

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First Responder Communications



Non-Mission Critical **The Current State** *Mission Critical*

Commercial LTE Service / Devices



Data **Voice**


Land Mobile Radio (LMR) for Public Safety



Voice

June 18, 2015 Source: <http://www.fema.gov/media-library/assets/images/53220> 5

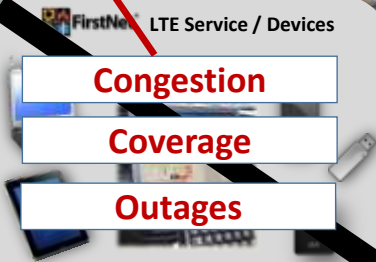
First Responder Communications



Non-Mission Critical **The Near-Term Vision** *Mission Critical*

FirstNet will ensure that emergency responders are provided with the first nationwide, high-speed, wireless broadband network dedicated to public safety

FirstNet LTE Service / Devices




Congestion

Coverage

Outages

Data **Voice**

Land Mobile Radio (LMR) for Public Safety



Voice

June 18, 2015 Source: <http://www.fema.gov/media-library/assets/images/53220> 6

Nationwide Vision



Map from Mosaik Solutions LLC

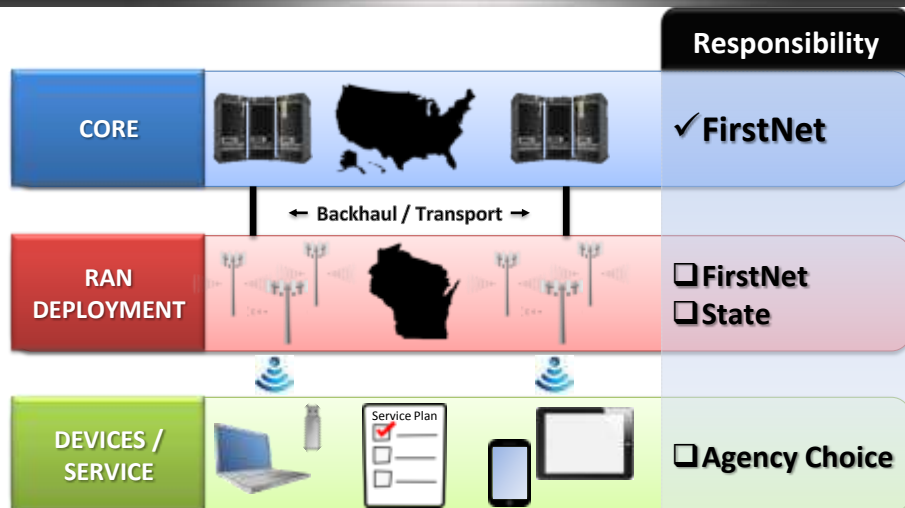
PUBLIC SAFETY NEEDS

- ✓ Dedicated Spectrum
- ✓ Priority / Preemption
- ✓ Public Safety Grade
- ✓ Cybersecurity
- ✓ Public Safety Applications

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Responsibilities for Network Components



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Implementing the Vision



THE LAW

2.22.12



FirstNet becomes law
PL 112-96

FUNDING



\$7B authorized to build the FirstNet network. Funded by spectrum auctions through 2022.

GOVERNANCE



The FirstNet Board has **15** members, including those with telecommunications and public safety backgrounds

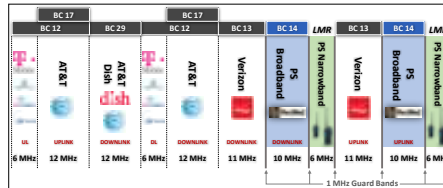
Each Governor appoints **1** Single Point of Contact (SPOC) and governing body to represent the State's interests to FirstNet.

40 member Public Safety Advisory Committee (PSAC) advises FirstNet on public safety intergovernmental matters.



BAND CLASS (BC) 14

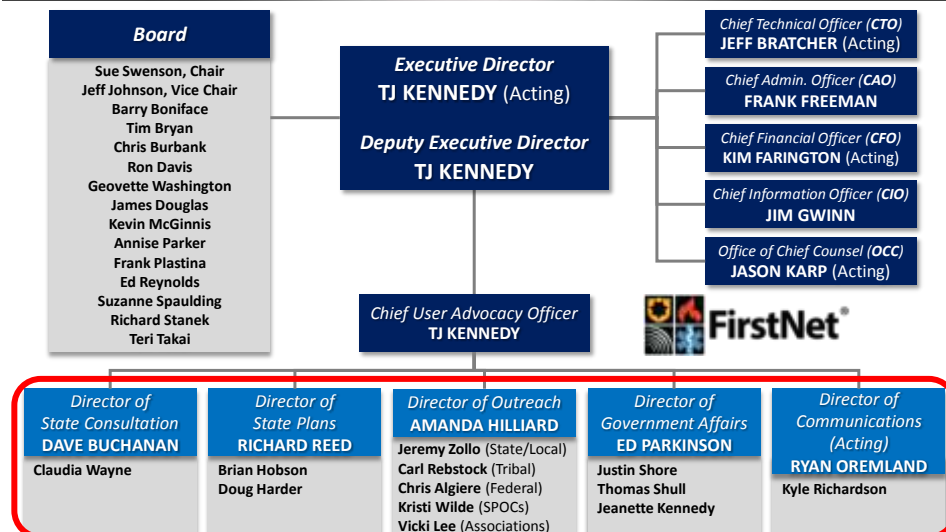
20MHz of bandwidth has been dedicated to public safety in the prime upper **700MHz** frequency range.



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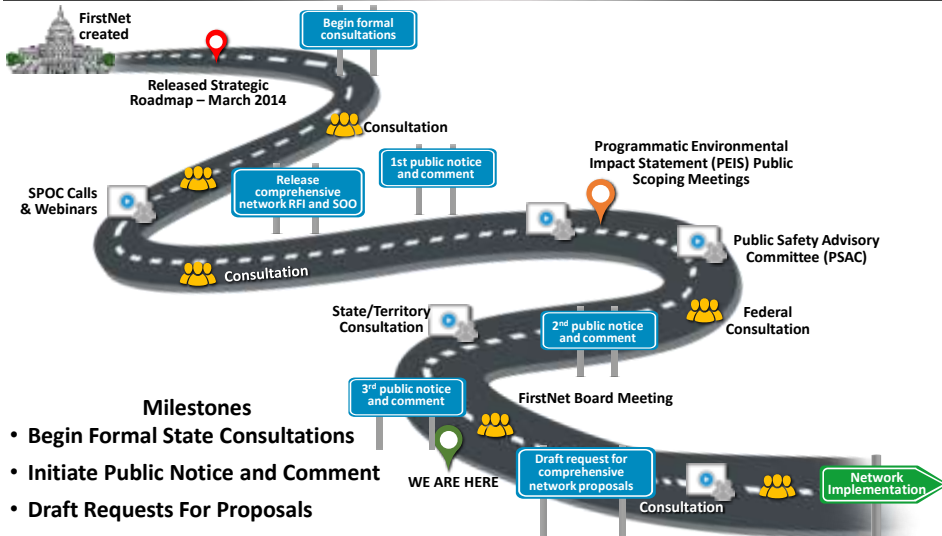
FirstNet Organization



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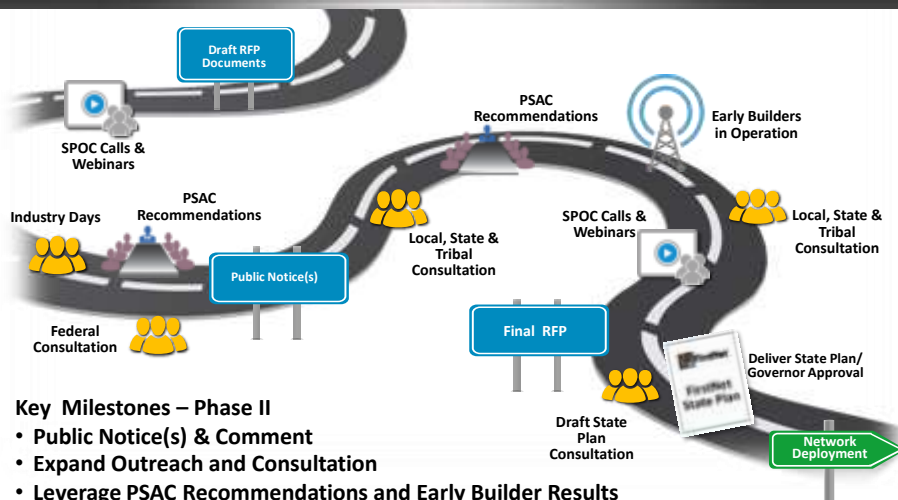
Progress Toward Roadmap Milestones



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Phase II: Road To Implementation



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Designing a Nationwide Network



Leveraging an Evolving Landscape



Aggregate LTE Coverage 3Q 2014

All coverage displayed is derived from public information provided by terrestrial mobile operators. Not all operators provide accurate coverage information. Standards for coverage representation vary among operators. Mosaic Solutions provides no warranty to the accuracy of the data. Analysis reflects 2014 Q3 Terrestrial Data.
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SOLUTIONS

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PUBLIC SAFETY NEEDS

- ✓ Dedicated Spectrum
- ✓ Priority / Preemption
- ✓ Public Safety Grade
- ✓ Cybersecurity
- ✓ Public Safety Applications

LEVERAGING INDUSTRY

- ✓ Existing Infrastructure
- ✓ Built & Maintained
- ✓ Global Standard
- ✓ Interoperability
- ✓ Economy of Scale

Why Leverage Industry?



- Follow the marketplace to leverage economies of scale and keep costs low
- Commercial service providers lease sites from large tower companies
 - Site Management is their business
 - Tools and services in place for site acquisition
 - Some own 10,000s of sites
- An LTE RAN site has high demands
 - Multiple, large antennas
 - High bandwidth connectivity requirements
- RAN share options are attractive to share costs and speed deployment times
- Public Safety Grade requirements will be addressed when economically feasible



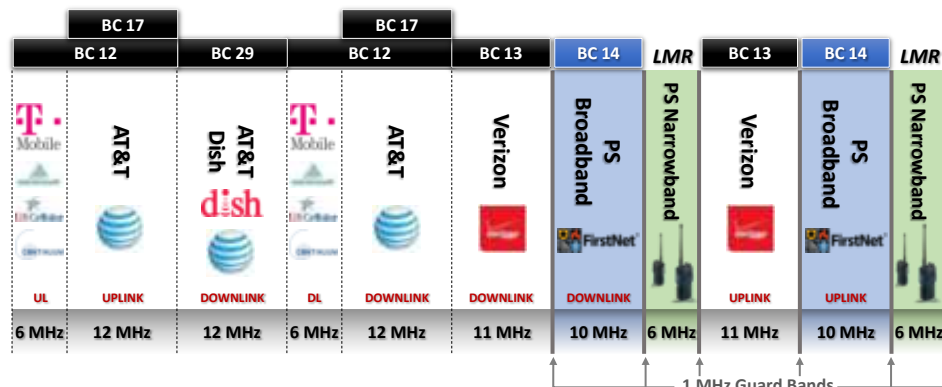
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FirstNet Spectrum – A Valuable Resource



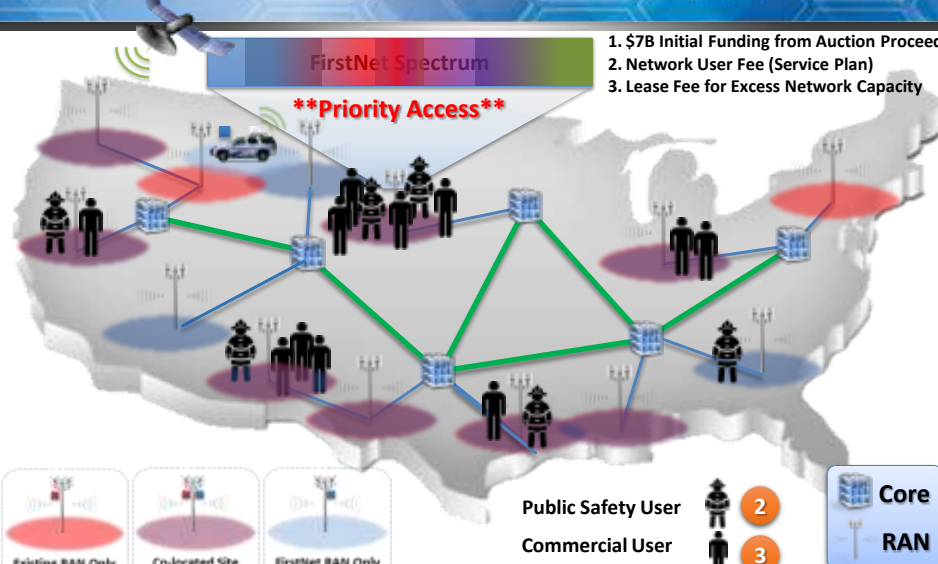
- FirstNet is the license holder for Public Safety's Broadband allocation – **Band Class (BC) 14**
- Commercial Carriers also operate in several bands outside of 700 MHz



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Revenue, Architecture & Priority





FirstNet Spectrum

****Priority Access****

1. \$7B Initial Funding from Auction Proceeds
2. Network User Fee (Service Plan)
3. Lease Fee for Excess Network Capacity

Public Safety User  2



Commercial User  3

 **Core RAN**

Existing RAN Only Co-located Site FirstNet RAN Only

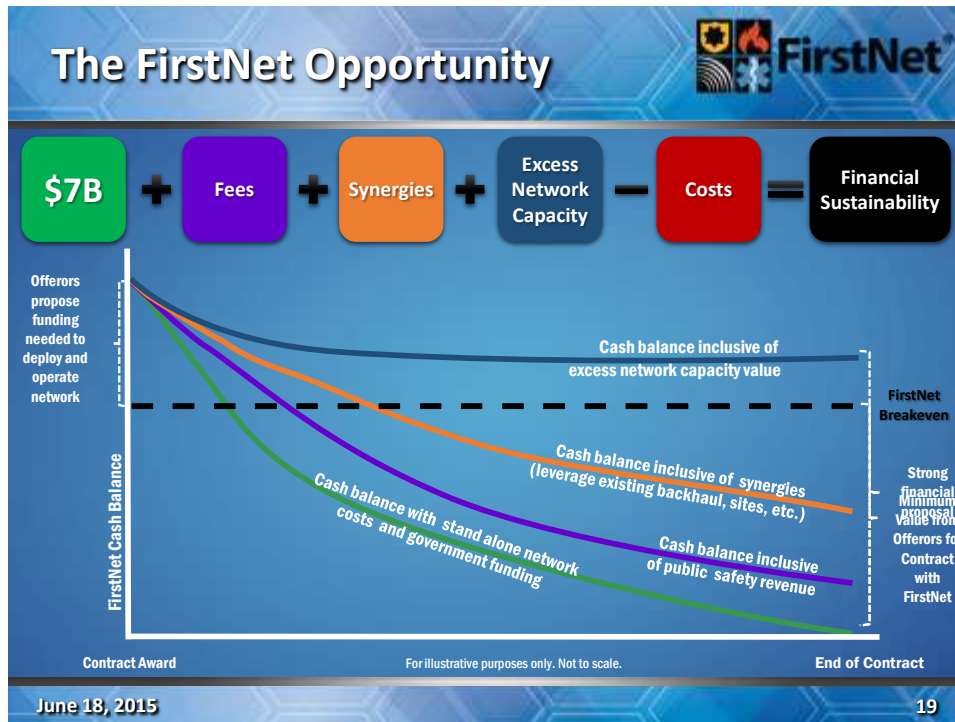
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Rural Deployment

<h3 style="text-align: center;">Requirements of the Act</h3> <p><i>"...shall require deployment phases with substantial rural coverage milestones as part of each phase of the construction and deployment of the network"</i></p> <ul style="list-style-type: none"> State Consultation Topic – identifying coverage objectives and inputs on a phased deployment 	<h3 style="text-align: center;">Potential Technical Options</h3> <ul style="list-style-type: none"> High power tower sites High power devices Deployable solutions (including SATCOM) 
<h3 style="text-align: center;">Fiscal Approach</h3> <p style="text-align: center;">Nationwide Reinvestment of Revenues <i>(As proposed in 2nd public notice)</i></p> 	<h3 style="text-align: center;">Contractual Measures</h3> <ul style="list-style-type: none"> Considering RFP incentives for rural Network policies with partner(s) to evaluate existing infrastructure beyond initial deployment

Note: The definition of rural does not determine coverage, our resources will determine coverage. The definition of rural will be used to measure whether substantial rural milestones have been included in each phase of deployment. Being included in the definition of rural does not guarantee coverage, nor does being excluded from it deny coverage.

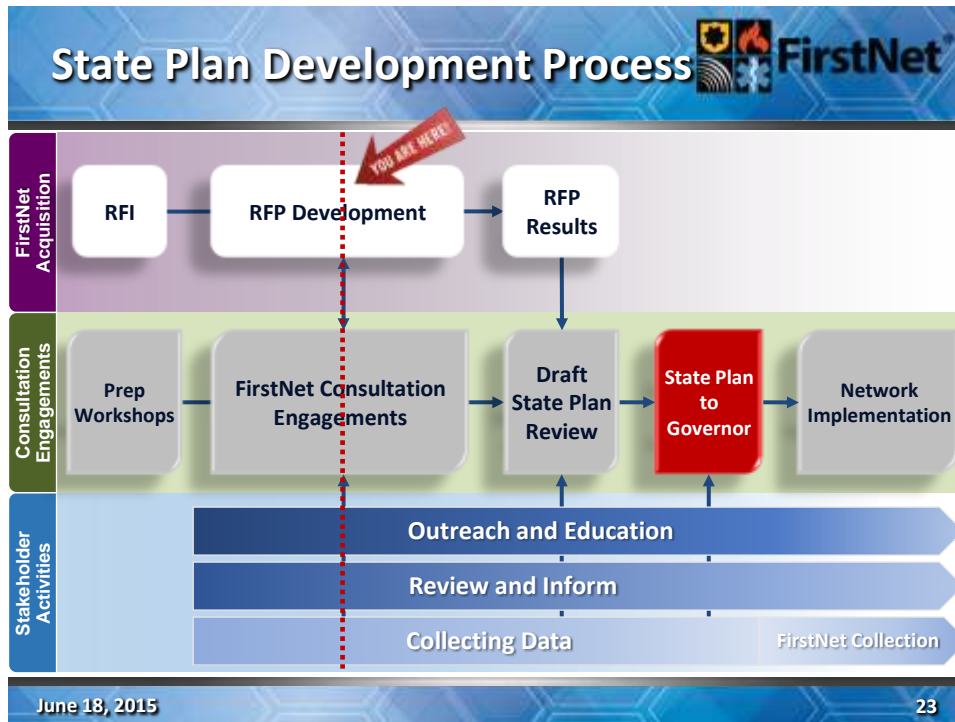
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Consultation & State Plan Process







What is a State Plan?

- ☒ Contains the Information the Act Requires
- ☒ Contains the Information the State Desires
- ☒ Captures a Snap Shot in Time
- ☒ Allows the Governor to Make an Informed Decision on the FirstNet Value
- ☒ Is a Non-Binding Document
- ☒ Is Implementable and Affordable
- ☒ Supports the FCC and NTIA in Evaluation of a State's Alternative RAN Plan

State Plan Process



Under the Act, the Governor has 90 days to choose whether to

1. Participate in the FirstNet proposed radio access network (RAN) deployment or
2. Assume responsibility to conduct its own state RAN deployment



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“FirstNet must provide a service that is compelling to public safety in order to earn your business.”

Sue Swenson
Chairwoman, FirstNet

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Facilitated Discussion:

Wisconsin & Public Safety Mobile Data



FirstNet Network Benefits



**Dedicated to
Public Safety**



**Public Safety
Apps /
Services**

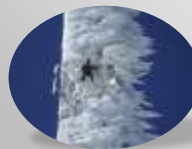
**QoS, Priority
& Preemption
(QPP)**



**Situational
Awareness**

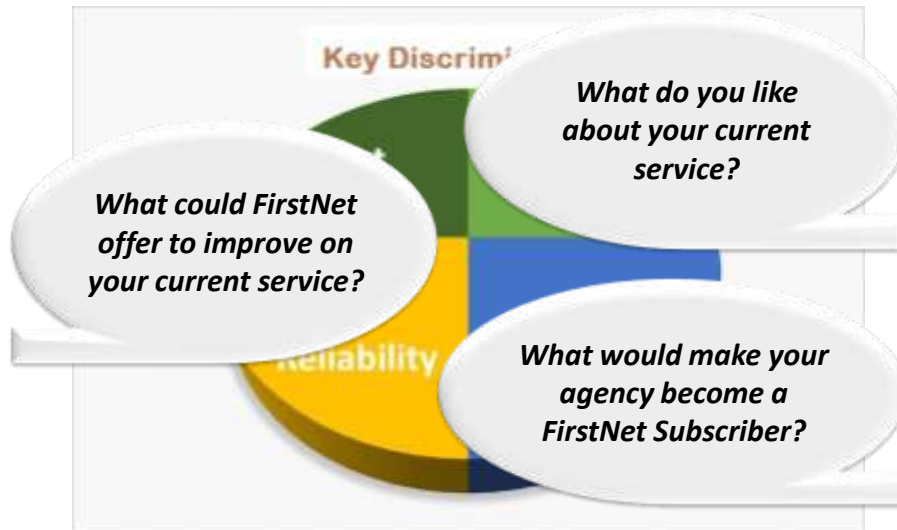


**Local
Control**



**Public Safety
Grade**

Wisconsin Input



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Coordination with Provider



As a government organization with a public safety stakeholder community, FirstNet hopes to tailor our coordination process to your needs

- How often does your agency interact with your provider?
- Does your agency use telephone support? Web? Dedicated person?
- Does your agency have a process to report dead spots to the provider? How do they address them?
- How does your agency request deployables for planned / unplanned events?

"We use the 1-800 number for technical support just like everyone else"

"We ask our provider for COWs each year for the horse race. They are responsive but it's never enough"

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Budget & Planning



FirstNet is a not for profit government organization with all user fees required to be reinvested into the Network

- How far in advance do you conduct budget planning for mobile data services?
- How is budgeting/planning handled differently for the device & the subscriber fee?
- What procurement method is the most desirable for your agency?

"If this is considered a capital expense, we do that planning five years in advance"

"If there is a way to keep the cost as a fixed amount each month, it would help with our county commission"

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Application & Device Management



FirstNet hopes to create a device and application ecosystem focused on public safety

- Do you restrict the applications / websites that your personnel have access to?
- Do you have someone in your agency that is dedicated to device provisioning
- How do you maintain / repair your devices?
- How are software upgrades handled?

"When we placed too many restrictions on the devices, people just used their personal ones instead"

"Our State contract limits us to two or three device makes/models"

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Personal / Shared Devices



While FirstNet cannot sell directly to the general public, we recognize the variety of volunteer, non-governmental organizations, and other types of personnel that support public safety

- Do you allow personal devices (BYOD)?
- Does your agency provide equipment allowances?
- Are there challenges with devices that are shared across multiple personnel (e.g., one MDT across multiple shifts)?

"We don't let our law enforcement personnel use personal devices because it opens it up to discovery as evidence"